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# MONITORING EMPLOYMENT QUALITY IN EUROPE: EUROPEAN EMPLOYMENT STRATEGY INDICATORS AND BEYOND

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**ABSTRACT**

Since 2002, in the framework of the European Employment Strategy, the European Union has defined a set of indicators to monitor employment quality. This article discusses and implements these indicators. From a theoretical point of view, it shows that the concept of employment quality encompasses several dimensions, which are likely to be related to national institutions, in particular to industrial relations and welfare systems, or more generally regimes of capitalism. On the basis of European indicators and complementary variables, it proceeds to a comparative analysis of employment quality, which confirms the existence of several models in Europe.

**Key words**: Employment quality, European Employment Strategy, comparative economics.

# *Analyser la qualité de l'emploi en Europe : au-delà des indicateurs de la stratégie européenne pour l'emploi*


## *Résumé*

*Ce document s'interroge sur la définition de la qualité de l'emploi, et son application dans une perspective comparative. La première partie retrace l'histoire de la notion de qualité de l'emploi, apparue en 2000 au sommet de Lisbonne et formalisée au sommet de Laeken, dans le cadre de la stratégie européenne pour l'emploi. La deuxième partie énonce les fondements théoriques d'une approche comparative de la qualité de l'emploi. Dans cette perspective, une question importante est de cerner l'influence que pourraient avoir les institutions, en s'appuyant notamment sur la littérature comparative sur les relations professionnelles, les systèmes de protection sociale et plus généralement la variété des capitalismes. La troisième partie présente et analyse les résultats empiriques, obtenus à partir de données européennes (LFS, ECHP, enquête de la Fondation du Dublin…). Elle s'appuie sur des analyses en composantes principales pour mettre en lumière des complémentarités entre différentes dimensions de la qualité de l'emploi, et sur des classifications hiérarchiques pour dégager des groupes de pays similaires. Une analyse de données à partir des indicateurs de la stratégie européenne pour l'emploi est complétée par une approche plus désagrégée, pour chaque dimension définie par l'analyse théorique : les salaires, les conditions de travail, l'éducation et la formation, le genre et les possibilités de conciliation entre vie familiale et vie professionnelle. Les résultats confirment l'existence de « modèles » : un modèle nordique, un modèle libéral, un modèle continental et un modèle méditerranéen. Une approche plus désagrégée permet néanmoins de discerner des différences entre pays d'un même modèle (le Portugal sur les questions de genre, ou bien encore le Danemark, où l'effort de formation est plus important encore que ses voisins nordiques).*



***Mots-clefs :*** *Qualité de l'emploi, stratégie européenne pour l'emploi, comparaisons internationales.*

# INTRODUCTION

The study of job quality has known major developments in the academic field over the last ten years, especially in economics and industrial relations studies. The growing interest for job satisfaction data among labour economists has generated a debate about the pre-eminent factors explaining workers' judgements on the quality of their jobs (Clark, 2004). Besides, many studies question the trend to the decline of job satisfaction observed in national and European surveys, despite rising real wages (Greene, 2006), which could be explained, among other factors, by some kind of work intensification and its impact on work-life balance. Job quality has also become an economic policy issue, both at international level through the definition of "decent work" by the ILO (ILO, 1999), and at European level through the inclusion of employment quality indicators in the European Employment Strategy in 2001 (European Commission, 2001). These definitions involve a range of dimensions, like wage level, social security and representation rights, type of contracts, training opportunities…which can be influenced by labour market and social policies.

Nevertheless, these international indicators are rarely used in the literature, and apart from few empirical studies (European Commission, 2001, 2002, 2003; and a special edition of the *International Labour Review*, 2003, No. 2), very little is known about employment quality from a comparative perspective.

This article tries to fill this gap by implementing, discussing and completing European indicators. The empirical enquiry is based on hypotheses derived from both the literature on job quality, and from usual typologies of industrial relations systems, welfare states, and more generally capitalisms.

We draw policy oriented conclusions, concerning both the European Employment Strategy, in particular the relevant indicators to monitor employment quality, and the relationships between national institutions and quality of employment.

# 1. EMPLOYMENT QUALITY IN THE EUROPEAN EMPLOYMENT STRATEGY (EES)

The introduction of employment quality in the European debate about labour market performances and labour market policy dates back to the Lisbon summit, in 2000. It takes place in a context of emerging cooperation between Member States in the field of employment and social policies, which is based on the so-called "Open Method of Coordination" and on the definition of the European Employment Strategy (Pochet & Zeitlin, 2005).

Indeed, since the Treaty of Amsterdam and the Luxembourg summit in 1997, the European Union has developed an innovative framework in order to promote coordination in fields under competency of Member States, like employment and social policies. This framework is supposed to compensate the strengthening of monetary and economic integration and the absence of reference to employment or unemployment in macro-economic coordination procedures. This coordination relies on the definition of common Employment guidelines, the elaboration of National Employment Action Plans by national governments, which are then evaluated with respect to Employment guidelines. This review process of the fit of

National Plans to the guidelines may be followed by recommendations from the European Council. All this procedure is public, but the recommendations have no mandatory character.

The first Employment Guidelines (in 1997) defined four priorities ("pillars") for Member States labour market policies, namely employability, entrepreneurship, adaptability and equality of opportunities. Although employment quality was not mentioned, the issue appeared at the Lisbon Council in March 2000, and is put forward at the Nice Council in December 2000. Indeed, at the Nice summit, employment quality was included in the European Social Agenda, and became an objective of the European Employment Strategy. Following this trend, indicators of employment quality were defined at the Laeken summit in December 2001 defines. Employment quality is still an official goal of the new EES adopted in 2003, aimed at promoting "full employment", "employment quality and productivity", "social inclusion and social cohesion". These three objectives have been confirmed for the period 2005-2008 in a Council decision of the 12$^{th}$ of July 2005.

Nevertheless, this growing interest for quality issues in the field of employment also shows signs of weakness. For instance, the 2004 *Employment in Europe* report by the Commission does not include any specific chapter devoted to employment quality, contrary to the three previous years. The report by Win Kok in 2004 (entitled *Jobs, jobs, jobs*) dealing with employment and labour market policies, focused on quantitative aspects of employment (and especially the employment rate and incentives to work), without any consideration of quality.

This brief history of employment quality at the European level underlines the ambiguity of the concept. On the one hand, it appears like an innovation testifying a will to renew the European Social Model. But on the other hand, it is strongly embedded in economic and political contexts. Indeed, the concern for quality has been supported by left wing governments, which were a majority in the EU at the end of the 1990s, in a successful economic context, characterized by growing employment. The increase in unemployment and the weakness of social democratic parties in the 2000s have limited the scope for such matters. The objective is still present in the EES, but its substance has changed: quality is more and more interpreted in terms of job productivity and financial attractiveness of job creations. Hesitations about employment quality definition reveal more global ambiguities in the EES (Erhel & Palier, 2005).

From a European policy point of view, reference to employment quality since 2000 appears like as being a political compromise, which has then experienced uncertain and variable success. Nevertheless, results are registered in terms of indicators and monitoring process.

Indeed, the political process has led to the definition of common indicators (European Commission, 2001). This European definition of employment quality relies on a multi-dimension approach, based on ten groups of indicators relating to: intrinsic job quality; skills, life-long learning and career development; gender equality; health and safety at work; flexibility and security; inclusion and access to the labour market; work organisation and work-life balance; social dialogue and worker involvement; diversity and non-discrimination; overall economic performance and productivity. According to the Commission, the two first dimensions concern the "characteristics of the job itself", whereas the other eight dimensions concern "the work and wider labour market context". At the Laeken Council and in the Employment Guidelines for 2002, key indicators and context indicators have been defined for each of these dimensions, except for social dialogue for which a political compromise was not achieved. These indicators (as listed in annex 1) are likely to be calculated on the basis of European surveys (European Community Household Panel, Labour Force Survey etc.). In the Reports *Employment in Europe* (2001, 2002, 2003), the Commission has started

their implementation and proposed some empirical analysis of the relationships between job quality and job quantity, job quality and flexibility…The Compendium for monitoring the EES published in 2006 also provides information about the Laeken indicators.

Despite these efforts to develop and monitor indicators, European indicators suffer from two main weaknesses: first, the very concept of employment quality is weakly defined, on the basis of a political consensus rather than on the ground of some theoretical analysis; second, the knowledge about the situation of EU countries with regard to employment quality remains scarce. In this article, we try to develop a comparative approach of employment quality, which first requires clarifying the concept of job quality and some hypotheses for comparison.

# 2. ANALYSING EMPLOYMENT QUALITY IN A COMPARATIVE PERSPECTIVE: A FRAMEWORK

## 2.1. The concept of employment quality

As the concern for employment quality is still recent in economics, we suggest a review of theoretical developments, as a contribution to a definition of the concept.

In the standard neo-classical model, work is a disutility and wages are the only motives of workers. At the market equilibrium, the wage level fully captures job quality, which equals the level of productivity and compensates the disutility of work.

With the theory of human capital (Becker, 1964), jobs and workers' heterogeneity is fully recognised, and a first step can be made to differentiate jobs' quality according to the skills involved in the job, or the skill matching between workers and jobs. Furthermore, in a policy oriented perspective, the distinction between general and specific human capital opens up the way for state intervention: firms do not want to finance general skills that could be profitable to other firms. Incentives to invest in education are important for individuals but they cannot always afford it. In case of imperfect credit market, the optimal level of skills will not be reached without public intervention. In this perspective, investment and participation in education and training activities could be an indicator of employment quality.

In the framework of hedonic wages and compensating wage differentials theory, other amenities and displeasures are taken into account in the utility function: injury and occupational diseases, commuting cost, training at work, job security, working hours, insurance, etc. (Rosen, 1986). But the level of wage is still the ultimate scale in the compensating wages differentials theory. The main question of the empirical literature is to know whether and to what extent the labour market provides compensation for no pecuniary attributes of work, such as injury risk. Empirical results are usually disappointing with 2 or 3% additional wage for an injury risk (Smith, 1979). Furthermore, theoretical literature recognises that incomplete information will lead to market failure: wages do not fully compensate amenities and state intervention may be necessary (Lang & Majumdar, 2004). Therefore, the empirical results and the theoretical developments of this approach finally point out to the necessity of including other characteristics of the job than the wage in any evaluation of its quality, such as working conditions, or working time.

In the recent framework of the "economics of happiness" (Layard, 2005), the approach to job quality is enriched by the consideration of workers' point of view, thanks to the development of surveys on job satisfaction and workers' well-being. In the methodological debate on job

quality and its dimensions, studies of job satisfaction can have two aims. First, in a global approach of job quality, job satisfaction can sum up employment quality (Kalleberg & Vaisey, 2005). The main advantage of this approach is to take into account the heterogeneity of preferences. Second, it is also possible to determine the dimensions of job quality by asking people what is more important for them: for instance, according to ISSP data (Clark, 2004), "job security" and an "interesting job" are "very important" for a majority of people, and seem to be more important than other items, like "being allowed to work independently", "good opportunities for advancement", "high income", "being useful to society", "allows to help other people" and "flexible working hours". However, such declarations could be subject to a social desirability bias so that most of the research tries to explain job satisfaction by objective variables and, above preferences heterogeneity, to find stable correlations between job satisfaction and objective variables. For example, it appears that the absolute wage level is not so important. Comparison effects and habit effect dominate: workers are unhappy if they are less paid than their colleagues or pears (every thing being equal), and the wage raises have just a transitory effect (Clark, 1999). These results suggest that decent living standard, wage equity, and frequent wage mobility could be taken as indicators of employment quality.

In order to define, measure, estimate and delimit employment quality, taking into account workers satisfaction can therefore be useful, but may not be sufficient, because workers are not completely informed about job opportunities and can adapt unconsciously their preferences to their situation without imaging a better situation (Llorente & Macías, 2005). Objective and subjective indicators are therefore complementary to determinate employment quality.

These developments in economic theory point out to the multi-dimensions character of job quality including both objective variables like wages and equity, skill level, indicators of working conditions, and subjective measures of workers' satisfaction. Nevertheless, attempts to identify dimensions of employment quality and set up indicators to estimate these dimensions by using objective and subjective indicators in a macroeconomic perspective are scarce in the academic field. The recent framework suggested by Green (2006) is an exception. Green approaches job quality through the evolution of different dimensions, including skills' level, work effort and intensification, worker's discretion, wages, risk and job insecurity, and workers' well-being, and thus includes the multidimensional nature of job quality in the definition.

To cope with the EES perspective, which focuses on employment quality and not only on job quality, and therefore includes some variables related to labour market opportunities rather than to characteristics of the job itself, Green's framework may be further enlarged. To set up such an employment quality concept, we propose to complement it with some results from the Transitional Labour Market (TLM) perspective (Schmid & Gazier, 2002), which has founded some of the work done by the European Commission in the reports *Employment in Europe* (European Commission, 2004). This approach takes into account the "erosion of standard employment" (defined as full-time and permanent contract), and the development of a diversity of working times, employment contracts, and intermediary statuses between work, unemployment and inactivity. On this ground, it stresses the importance of studying the transitions (not only within work), but also between work, education and training, unemployment and inactivity, non-paid activity and family care. For this, a powerful tool is a transition matrix with status year t in column and status year t+1 in the line. A key issue is then to characterize good and bad transitions. For example how many workers in fixed-term contract are in permanent work one year later? Are fixed term contract a stepping-stone or a

dead-end job? Are choices reversible? Does a temporary part-time work used to provide family care endangered training and career mobility? The TLM perspective adds a dynamic and life cycle perspective on employment quality. In this perspective, employment quality systems should provide flexibility (and in particular working time diversity) around the life cycle and at the same time security. More generally, above decent wage and safe working conditions, TLM perspective fully recognises the importance of other quality dimensions, such as rights to training, to occupational redeployment or retraining, to a family life, to decide ones working hours throughout the life cycle (Schmid, 2006). As a consequence, gender issues are at stake. In brief, a TLM perspective can contribute to the definition of employment quality by focusing on life cycle specificities and recognising the interactions between employment and other life spheres.

To sum up, this review of literature highlights that employment quality is increasingly in the research agenda of labour economists, as a multi-dimensional concept, covering four fundamental components would be:

- Decent wages and wage inequality;
- Skills and training;
- Working conditions;
- Ability to combine work and family and gender equality.

These dimensions can be captured through a combination of objective and subjective data, and should be interpreted in a static as well as in a dynamic perspective, using transition data.

## 2.2. Institutions and country patterns of employment quality

In a comparative perspective, we need an analytical framework which clarifies the relationships between national institutions on the one hand and the various dimensions of employment quality on the other hand. In economics as well as in sociology or political science, a growing number of approaches have been dealing with the relationships between economic performances (including labour market performances) and national institutions. Following Jackson & Deeg (2006), this literature can be regrouped under the heading of "comparative capitalisms" although it appears very diverse including both synthetic approaches like the "varieties of capitalism" (Hall & Soskice, 2001), and more partial comparative frameworks, focusing on industrial relations, welfare systems or work organization. These recent developments draw on a well established tradition of comparative institutional analysis, which highlights patterns of country specific institutional arrangements, resulting in differentiated performances. Without aiming at an exhaustive review[1], we will try to examine the extent to which such approaches could be applied to examine and compare the quality of work between countries. We will first focus on some common methodological issues, which are crucial for any interpretation of empirical results in a comparative perspective, and then discuss some lessons from this literature which apply to employment quality comparisons in more details.

The comparative capitalism approach is unified by common analytical premises (Jackson & Deeg, 2006).

[1] For recent reviews, see Jackson & Deeg (2006), O'Reilly (2005).

First, comparative analysis builds the core of the research strategy: its aim is to identify similarities and differences between institutions and governance mechanisms and to understand the impact of these institutional differences on various economic outcomes. In this perspective, most comparative researches rely on typologies as a means of clustering countries.

Second, these comparative approaches conceptualize institutions as being interdependent: the concept of "complementarity" is therefore central to this type of analysis. "Complementarity" implies a functional interdependence between institutions, i.e. that institutions in a given domain affect the outcomes or utility of institutions in other domains. However, complementarities and interdependence do not imply economic efficiency and may even help to understand why suboptimal arrangements are sustained. But on the other hand, they also create space for diverse organizational patterns and maintain some variety which facilitates adaptation. An important consequence of these properties of institutional arrangements is that they may lead to the same outcomes. A corollary of this is that a given institution cannot be said efficient independently of the context. As a result, comparative analysis should not aim at giving unique normative recommendations to follow the best model: good employment quality patterns may result from different combinations of institutions.

Comparative studies based on such premises have been developing in two directions: some of them concentrate on a given institutional domain whereas others build general typologies of capitalism. Following these two lines of research, the relationships between employment quality and national institutions can be analysed. Employment quality does not appear as a specific item in this literature, but after having identified its components, some hypotheses for comparisons can be suggested from the existing typologies.

The five dimensions of employment quality are likely to be influenced directly by the following institutions: industrial relations (wage bargaining system), education and training system, welfare systems and labour market policies, work organization systems. Some institutions that might have an indirect effect, such as the financial system, corporate governance, inter-firm relations and innovation are not considered here: under the assumption of interdependence and complementarities, the effects of these on job quality are taken into account in the synthetic models.

It appears difficult to draw general hypotheses concerning the situation of European countries with regard to education and training on the one hand, and work organization on the other hand. Whereas it is clear that the global intensity of the education and training effort has an impact on employment quality, the relationship between the type of governance in this area and the outcomes in terms of skill level is unclear. In the 1980s a usual opposition was made between high-skill and low-skill equilibrium countries, which were exemplified by Germany and the UK. Nevertheless, recent studies have shown that countries actually combine different governance mechanisms, direct state provision, free markets, institutional companies, firms' networks, and corporatist associations, which makes it difficult to define a relationship between a given type of governance and skill performances (Crouch, Finegold & Sako, 1999). As far as work organization is concerned, recent studies show that European countries are characterized by diverse forms of work organisation, "Lean", Taylorist", "Learning", and "Traditional" (Lorenz & Valeyre, 2005). The most innovative forms of work organization (post-fordist forms) have ambiguous effects on job quality: they tend to favour higher wages and increased autonomy, but at the price of some work intensification, higher stress or occupational diseases (Brenner, Fairis & Ruser, 2004).

Industrial relations systems affect labour market performances and especially unemployment and wages: according to the neo-corporatist literature in the 1970s, but also to more recent approaches (Crouch, 1993), regulated and centralized wage bargaining systems (like in Northern Europe, but also in Germany or the Netherlands) are favourable to employment and economic stability, but also to greater wage equality among workers and to their participation to the system. Conversely, "pluralistic bargaining", which is characterised by a weak union-employer articulation and/or by weak unions leads to lower performances in terms of employment and equality/solidarity. Thus there would be a link between some aspects of employment quality and the wage bargaining system.

The same holds for welfare systems. Esping-Andersen's (1990) original typology includes three models of welfare state: the liberal, conservative, and social-democratic. His typology has then been adapted to include southern European countries, which would build a fourth type (O'Reilly, 2005). One of the ambition and strength of this approach has been to link welfare state provision to labour market outcomes, and especially to employment rates performances. Esping Andersen's typology has also been related with the gender dimension of employment quality (O'Reilly, 2005): liberal welfare states are likely to create polarized employment opportunities for women in the private sector, whereas in the social-democratic regime jobs for women are more likely to be found in the public sector. In both regimes, the employment gap is limited, but the differences between men and women in terms of job characteristics (share of part time, wage level…) are likely to be higher in the liberal model. Conservative and Southern Europe countries are characterized by a low participation of women to the labour market, and difficulties to conciliate work with family formation (low provision of childcare). From that respect, employment quality is low in these countries.

General typologies also deal with some dimensions of employment quality. Soskice and Hall (2001) compare capitalism as production regimes and focus on firms' behaviour as a starting point of their analysis. Firms are supposed to be embedded in a context which encompasses four institutional domains that define their incentives and constraints, financial systems and corporate governance, industrial relations, education and training systems, and the governance of relations between companies. On the basis of this framework, the authors distinguish two basic types of production regimes, namely Coordinated Market Economies (CMEs) and Liberal Market Economies (LMEs). This dichotomy relies on a fundamental feature, which is the nature of coordination within the economy. In LMEs, coordination proceeds from market mechanisms, whereas in CMEs it is based on non market mechanisms, strategic coordination and cooperation, favouring investment in specific goods. CMEs thus encourage long term financing relationships, cooperative industrial relations, serious initial vocational training and substantial cooperation on standard setting and technology between companies. Within LMEs, financial systems impose relatively short term horizons and high risk taking, labour market are deregulated with weak forms of industrial relations, vocational training is also poor with more encouragement of general education, and finally there is a high level of inter-company competition limiting cooperation possibilities. This typology clearly has consequences in terms of employment quality: it suggests that a good level of employment quality is likely to be observed in the CMEs, and especially in Europe among the sub-type designated as "Industry Coordinated Economies Industry", which correspond to the countries of Northern Europe, whereas the LMEs (represented in Europe by the UK) would be characterized by a high proportion of poor quality jobs.

Amable (2003) tries to go beyond this dichotomous typology by putting forward a larger set of institutions in the construction of his typology. Indeed, he considers that Soskice and Hall's framework relies on an implicit hierarchy between institutions, where the firm is at the

centre of the analysis. Amable utilizes five institutional domains to generate his typology: product market competition, the wage-labour nexus and labour market institutions, finance and corporate governance, social protection/welfare state, and the education/training system. On the basis of theoretical analysis of possible combinations of institutions within and between these domains, and of cluster analysis, he distinguishes between five types of capitalism: a market-based model, a social-democratic model, a continental European model, a Mediterranean model, and an Asian model. In this typology, the differentiation in terms of employment quality is more complex. Poor employment quality can still be associated here to the market-based model, which is close to the LME in Hall and Soskice's approach. But it also characterizes the Mediterranean model, where the education and training level of the workforce is low, which does not enable any high wage industrial strategy, and limits the generosity of the welfare system. Still, contrary to the market-based model, employment is rather well protected. At the opposite, the social-democratic model, as developed in Northern Europe, exhibits a high level of welfare, good training opportunities and generous active policies in case of unemployment, and coordinated wage bargaining, including both principles of solidarity and productivity. The continental model is more ambiguous in terms of employment quality: it is close to the social-democratic model in the sense that it includes quite generous welfare, a certain degree of wage bargaining cooperation, active policies and training, but all these characteristics which favour a good employment quality are less developed. Employment protection stands at a higher level, which has an ambiguous consequence in terms of employment quality, since it tends to be favourable to insiders, but reduces employment opportunities for job seekers.

Along the lines of recent comparative literature in economics, we can consider employment quality as one dimension of economic performances, which is likely to be influenced by institutional settings and policies. Our empirical analysis will try to identify the "models" of employment quality in Europe and to discuss them according to hypotheses which can derived from usual typologies.

# 3. EMPIRICAL RESULTS: MAPPING THE QUALITY OF EMPLOYMENT

## 3.1. Methodology

Our empirical analysis of employment quality in Europe starts from Laeken indicators, but introduces some modifications or additions, either to deal with some interpretation problems, or to take into account the conclusions from the theoretical framework (see appendix 1 for details about variables and sources).

First, in a comparative perspective, it does not seem relevant to consider only the "growth rates" of productivity and accidents at work, as stated by the Laeken indicators. Indeed, work productivity growth reflects the dynamics of economic development, and appears thus higher in Southern Europe than in other countries, but this difference cannot be interpreted as a difference in job quality. As for accidents at work, its evolution also reflects some structural factors, like the composition of the economy by sector, or even again development. To compare countries' situations it is thus preferable to consider also the levels of these two variables.

Second, although it appears relatively wide, the Laeken definition excludes some relevant dimensions of employment quality, for instance wages, which are a core component of job

quality in an economic perspective. Therefore, variables concerning wage levels (median wage, share of working poors, and, when relevant, minimum wage) has been introduced in our model. Because of a lack of agreement between Member States, "social dialogue" has not been precisely specified: to include this important dimension, some indicators from the Third European Survey on Working Conditions have been added.

More generally, complementary variables have been introduced in our data base to get a more general picture of employment quality, when they are available. For instance, training is not only approached by frequency indicators (participation rates), but also by indicators of intensity like the average duration of training. Working conditions are analysed using variables from the Third European Survey on Working Conditions in order to take into account of health risks, work intensity… According to the analysis presented in the previous section, we have considered both subjective (satisfaction) and objective indicators, and relevant transition variables.

Based on the Labour Force Survey, the European Community Household Panel and the European Survey on Working Conditions, the statistical analysis has been conducted for the year 2001 (because of availability problems for transitions data for the later years) in 14 EU countries (Luxembourg was excluded has been excluded because of data problems).

In order to get a comparative view of employment quality in Europe, taking into account of the multiple dimensions which are constitutive of it, Principal Component Analysis (PCA) is used. This method copes with a hypothesis of complementarities between the different dimensions introduced in the analysis. It is complemented by a cluster analysis. The objective is thus to map employment quality and to identify clusters of countries.

In a first step, we realize a PCA including all Laeken indicators (key and context indicators), to get a global picture of countries' situation and a comparative perspective on the basis of the European definition of job quality. In a second step, we use complementary variables to get a broader view, and we disaggregate employment quality according to four dimensions using either PCA or comparative tables when the number of variables is limited, in order to specify national situations.

## 3.2. How many models of employment quality in Europe?

The results for the PCA based on Laeken indicators, and the cluster analysis, are presented in figures 1 and 2[2].

In figure 1, national situations in terms of employment quality are clearly differentiated in Europe: Northern countries and UK are opposed to Southern Europe countries, whereas continental countries stand in a medium position. Factors' description allows an interpretation of axis 1 in terms of performances. This axis contrasts countries according to employment rates, participation in education and training (which are high on the left hand side), long term unemployment and gender gaps (on the right hand side). The second axis differentiates the continental countries from the others, on the ground of their high productivity of labour and of their low level of older workers' participation to the labour market.

[2] We present in the text the representation according to the first and second factor. In addition, we have also considered the third factor and its contributory variables, which is mentioned when it provides additional information, but not presented in order not to complicate the presentation. The results are available on request.

**Figure 1**

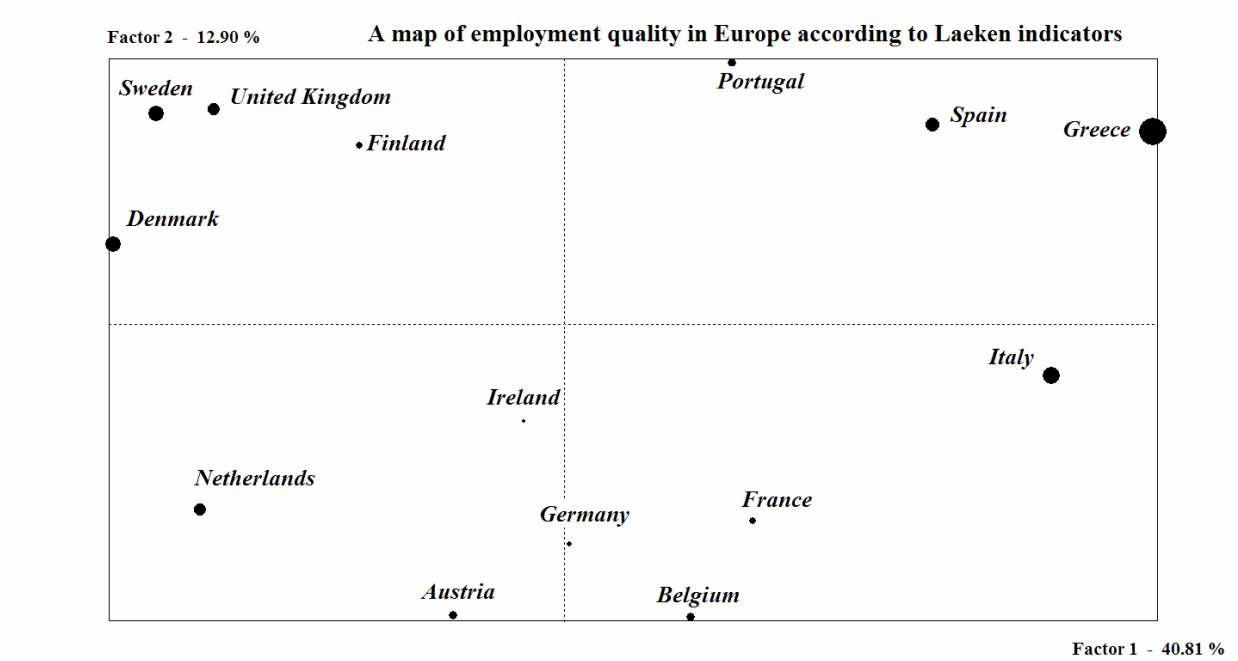
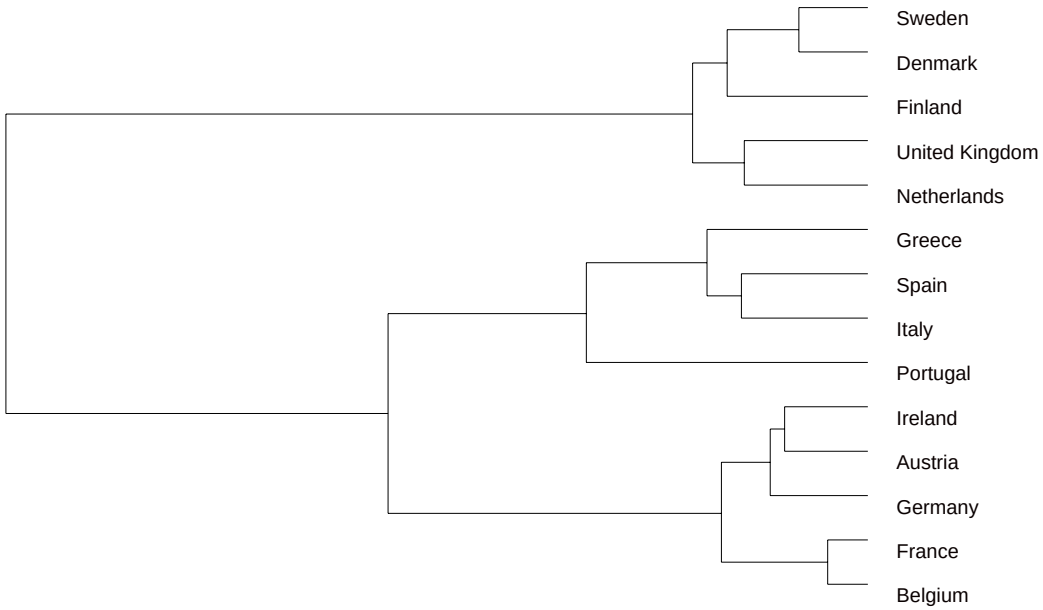



**Figure 2**




Thus the hypothesis that existing differences in industrial relations, social protection, education and training systems, and "varieties of capitalism" also influence employment quality and create a variety of models seems to be confirmed.

Cluster analysis differentiates four models, more or less corresponding to Amable's typology and to extended Esping Andersen's typology: a social-democratic model, represented here by Sweden, Denmark and Finland, a liberal model, which includes UK but also the Netherlands, a Southern European model, composed of Greece, Spain, Italy and Portugal (with an internal

distinction between Portugal and others, which we will comment later), and finally a continental model, which regroups Germany, France, and Belgium. This last group is not as homogeneous as others since it also includes Ireland and Austria, which position according to usual typologies is unclear.

Laeken indicators reveal the heterogeneity of employment quality in Europe and confirm the link with institutions and national models. Nevertheless, this global approach has two limitations: first, despite the large number of indicators, major dimensions of job quality are not included; second, the clusters may hide differences in the constitutive dimensions of employment quality.

## 3.3. A more disaggregated approach

In this second step, we consider successively the four dimensions of employment quality. Additional variables with regard to employment quality have been introduced in this analysis.

### *"Decent" wages and wage inequality*

The median wage in purchasing power parity can sum up the earnings that a worker can hope in each country. Workers in Continental and Northern Europe (Belgium, Denmark, France, and the Netherlands) enjoy in average higher wages than in United Kingdom (see table 1).

**Table 1**

| | **Minimum wage in euros** | **Number of working poor as % of working population** | **Median wage in purchasing power parity** |
|---|---|---|---|
| Belgium | 1158.8 | 4 | 106.1 |
| Denmark | - | 3 | 112.8 |
| Germany | - | 4 | - |
| Greece | 681.8 | 13 | 40.3 |
| Spain | 526.6 | 10 | 77.7 |
| France | 1140.5 | 8 | 104.8 |
| Ireland | 895.7 | 7 | 90.5 |
| Italy | - | 10 | 85.3 |
| Netherlands | 1196.3 | 8 | 114.8 |
| Austria | - | 6 | 92.6 |
| Portugal | 527.2 | 12 | 41 |
| Finland | - | 6 | 84.1 |
| Sweden | - | 3 | - |
| United Kingdom | 968.4 | 6 | 100 |

*Source*: Eurostat, ECHP.

The median wage in Finland, Austria, Italy and Ireland stands just below, whereas Greece, Spain and Portugal register the lowest median wages. In line with the neoclassical model of labour market equilibrium, productivity is also lower in these countries. Furthermore, the Southern countries exhibit the highest proportion of working poor, as an indicator for social exclusion chosen as a benchmark in the OMC for social inclusion[3]. This bad performance in terms of poverty in work can be explained by greater wage dispersion since this indicator captures relative poverty. According to OECD (OECD, 2004), wage dispersion is indeed greater in countries with low union density and bargaining coverage, such as Italy, Portugal and Spain, but also France, United Kingdom, and Belgium. However, the low level of the minimum wage and low compensation from the Welfare State may be a better explanation of the number of working poor in the Southern countries. On the other hand, according to transition matrices, wage mobility is higher in the South, which indicates that low wages may be temporary in these countries.

### *Skills and training*

Concerning the skills and training dimension, the Laeken indicators of employment quality focus on the frequency of vocational training. To be more precise about the volume and intensity of vocational training, we have added in the analysis the average number of hours spent on formal training, the cost of formal training by participant, and participation in informal vocational training. In fact, countries also invest in training through complementary channels, such as initial vocational training or training for the unemployed. That's why our analysis also includes education and training labour market policy expenditures as percentage of GDP.

The first axis of the PCA sums up the extension of education and training, with active variables such as participation in vocational training, in informal training or indicators reflecting the skill level of the working population measured by the use of computer and the share of population having at least achieved upper secondary education (see figures 3 and 4). The Nordic countries are the best performers, followed by the United Kingdom. Ranking of the UK is rather puzzling as academic and political debate in this country stresses the poor performance of the education system in contrast with Germany[4]. However, the upper secondary education levels are not completely equivalent: British people are younger than German people when they end up an upper secondary education and the German apprenticeship system is seen as well performing even if pupils in this system do not attain an upper secondary education level. The appreciation of the British performance is changed when considering the second axis, which sums up the investment in the fields of initial education and vocational training, as measured by the public expenditure on education and on training labour market policies, but also the cost of vocational training courses per participant and the average duration of these courses. Denmark differs from Continental and Northern countries by investing in training and education considerably more than its neighbours. The third axis contrasts Continental Europe with more liberal States where informal training seems to be more frequent.

[3] For a discussion of these indicators, see Cazenave (2006).

[4] See, for example, the Secretary of State for Education and Skills (2003), *21st Century Skills. Realising Our Potential*, July and the *Oxford Review of Economic Policy*, vol. 15, issue 1 (1999) and vol. 4, issue 3 (1988).

**Figure 3**

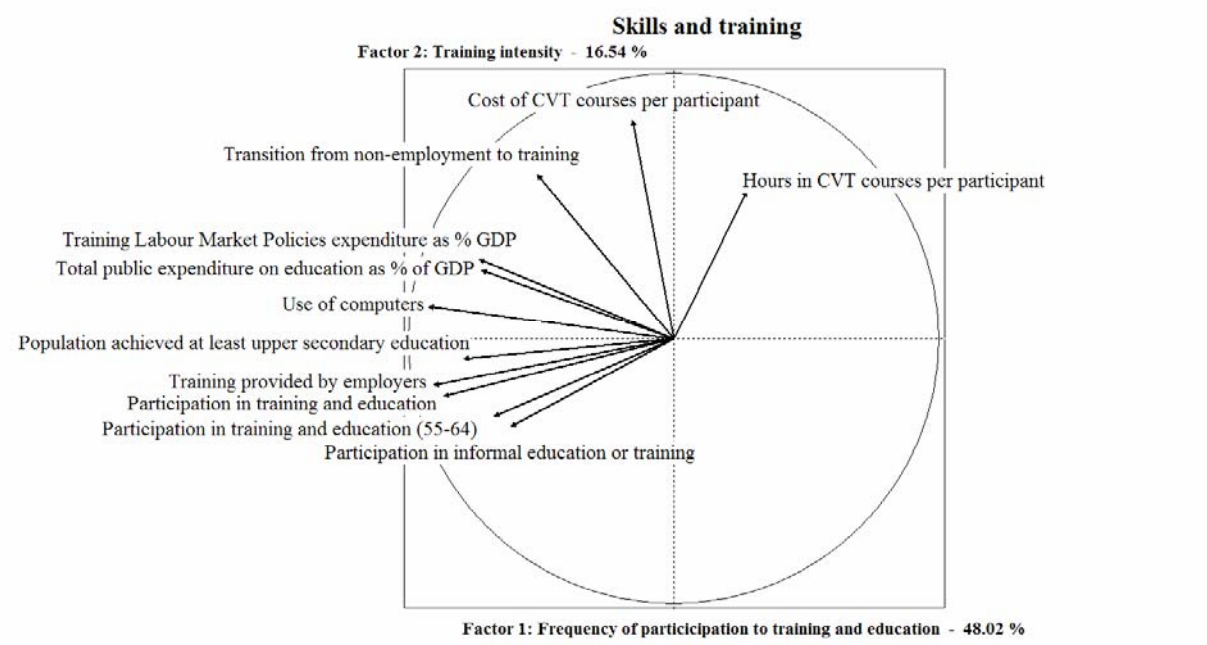
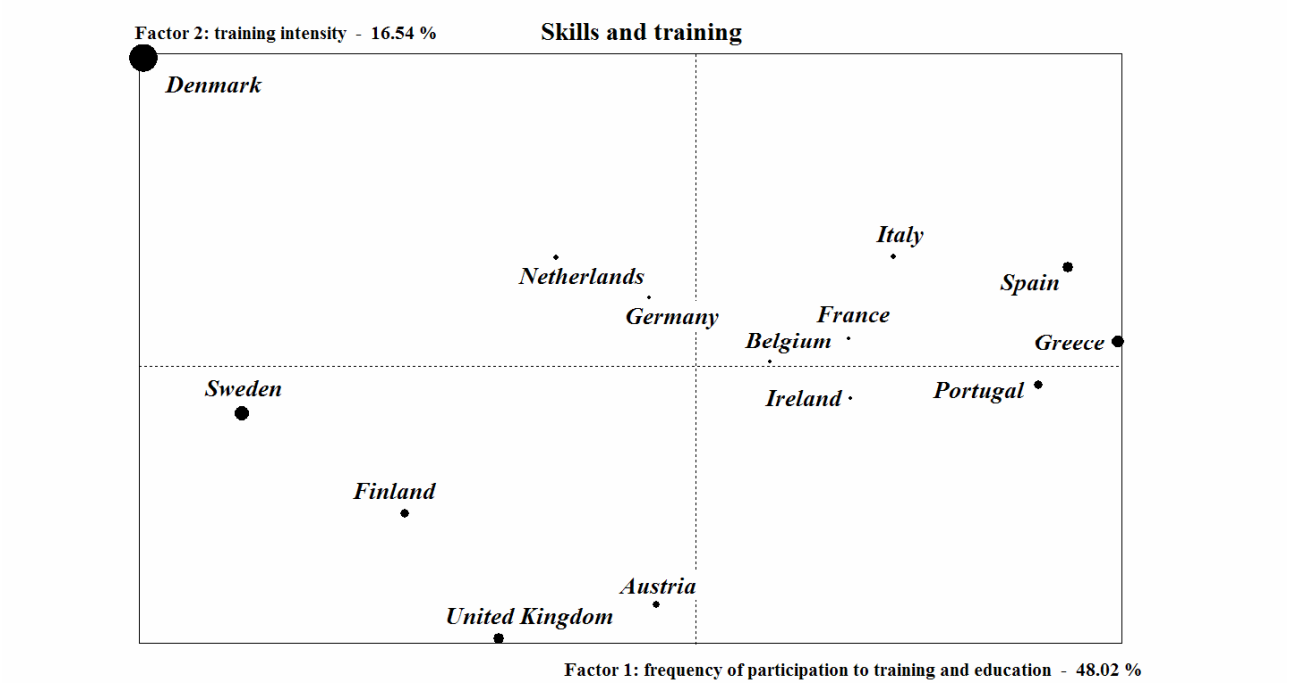



**Figure 4**




## *Working conditions*

To sum up working conditions, we use both administrative data gathered by Eurostat and declarative data from the Third European Survey on Working Conditions managed by the Foundation for the Improvement of Living and Working Conditions. According to the first axis of the PCA (see figures 5 and 6), working conditions are worse in Greece, Finland, Spain, and to a lesser degree in France, than in the Netherlands and Denmark, among others.

**Figure 5**

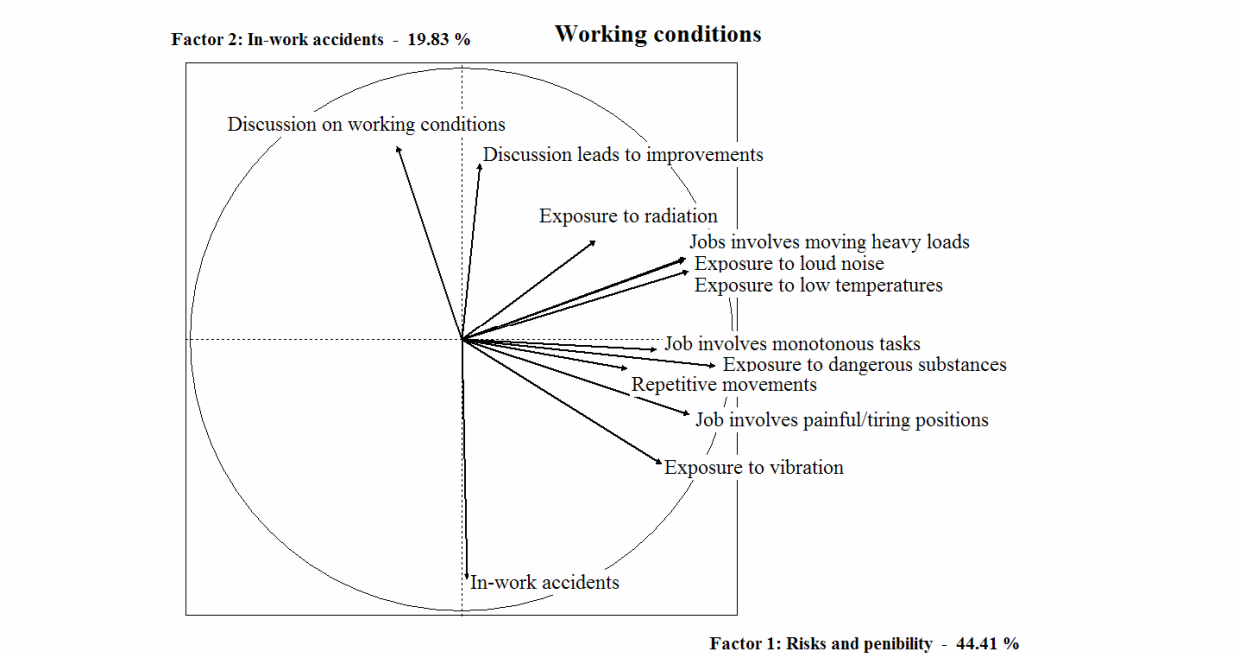
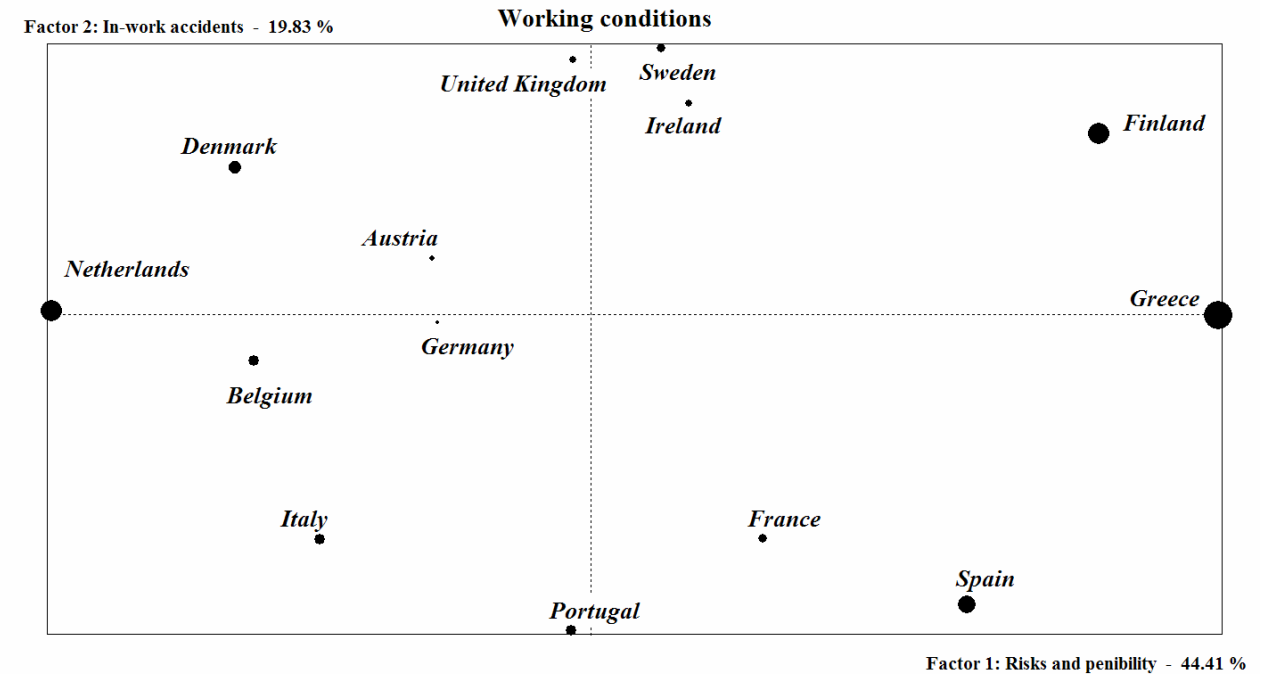



**Figure 6**




When considering the rate of accidents at work (which contributes to the definition of the second axis), a different ranking appears: working conditions are considered as dangerous in France, Portugal, Spain, Italy and to a lesser extent Belgium and Germany. In fact, administrative and declarative data provide a different picture for countries situated in the Southern-Western quadrant and for countries in the Upper-Eastern quadrant. However, the rate of accidents at work does not reflect all the facets of risks at work, like occupational diseases. Another explanation of these contradictory results may be found in problems of

comparability between countries: even after the Eurostat data harmonization on accidents at work, there are still problems of comparability. The differences observed in incidence rates between Member States could come from differences in coverage and in reporting legislation, which refer to differences in welfare and health care systems. In countries with insurance-based systems, such as Germany or France, there may be a financial incentive for both employers and employees to report accidents. In other countries accidents registration relies on voluntary reporting, which underestimates the number of accidents. In this case, Member States are supposed to provide an estimation of the reporting level in order to help Eurostat in correcting this bias, but the comparability of the data is not completely guaranteed.

The variables concerning discussion about working conditions contribute to the third axis, and to a lesser extend to the second axis. Therefore, they are not correlated with the declarative variables on working conditions. Two mechanisms can cancel each other out: discussion can lead to improvements, but can also make workers aware of work organisation problems. In other words, despite this apparent contradiction, social dialogue may still be important for improving job quality (Freeman & Medoff, 1984).

### *Gender and family perspective*

To have a broad perspective on employment quality from a gender and family conciliation perspective, the analysis relies entirely on the relevant Key and Context indicators from the Laeken list. Indeed, the gender dimension is one of the most completed and original dimension of the Laeken portfolio. The first axis brings out the situation of Italy, Greece and Spain, where gender unemployment and employment gap is high, but occupational and sector segregation[5] low (see figures 7 and 8). It suggests a sort of trade-off between segregation and participation in employment[6]: in countries where the employment rate is relatively high, women with low qualification participate more frequently in the labour market, but stay in particular occupational segments.

The most contributory variables to the second axis are the employment impact of parenthood, the provision of childcare and, to a lesser degree, involuntary part-time employment for women. The second axis reflects the opposition between the Northern countries and Portugal on the one hand, where provision of childcare is relatively important and employment impact of parenthood low, and United Kingdom and Germany (but also the Netherlands, Ireland, Austria and Spain) on the other hand, where the childcare provisions are limited and therefore mothers have to leave the labour market. Furthermore, the involuntary part-time employment for women seems all the more important as women participation in the labour market is high and childcare provision high. When childcare is not provided by the State, women may not consider part-time work as a constraint, but as an opportunity to combine work and family, without considering other potential alternatives. The variable that contributes the most to the third axis is the gender pay gap, calculated as a ratio of women's hourly earnings index to men's for paid employees at work 15 hours or more, but this indicator is not available for every country. The gender pay gap seems to be an independent dimension: according to it, countries like Sweden and Finland are not good performers.

[5] The segregation indicator is calculated thanks to the average national share of employment for women and men applied to each sector (or occupation). The differences are added to produce a total amount of gender unbalance.

[6] See also Marc and Zajdela (2006) for an analysis of these segregation problems for the French and Swedish case.

**Figure 7**

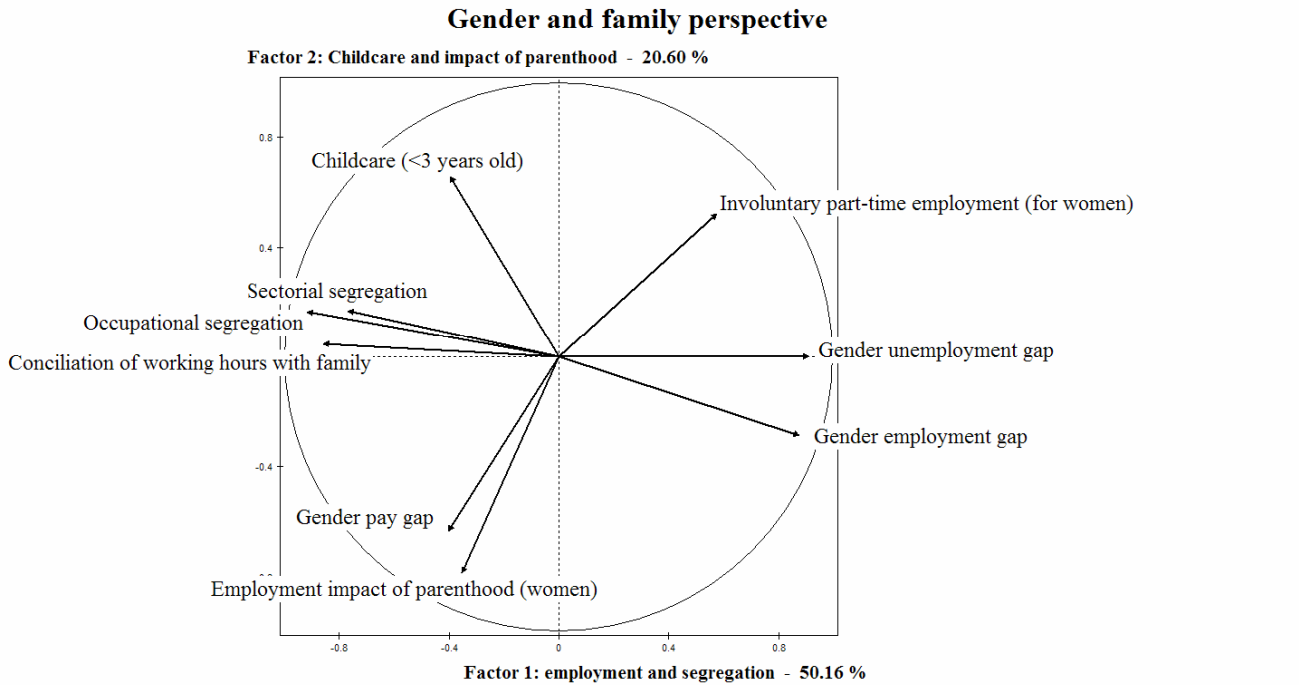
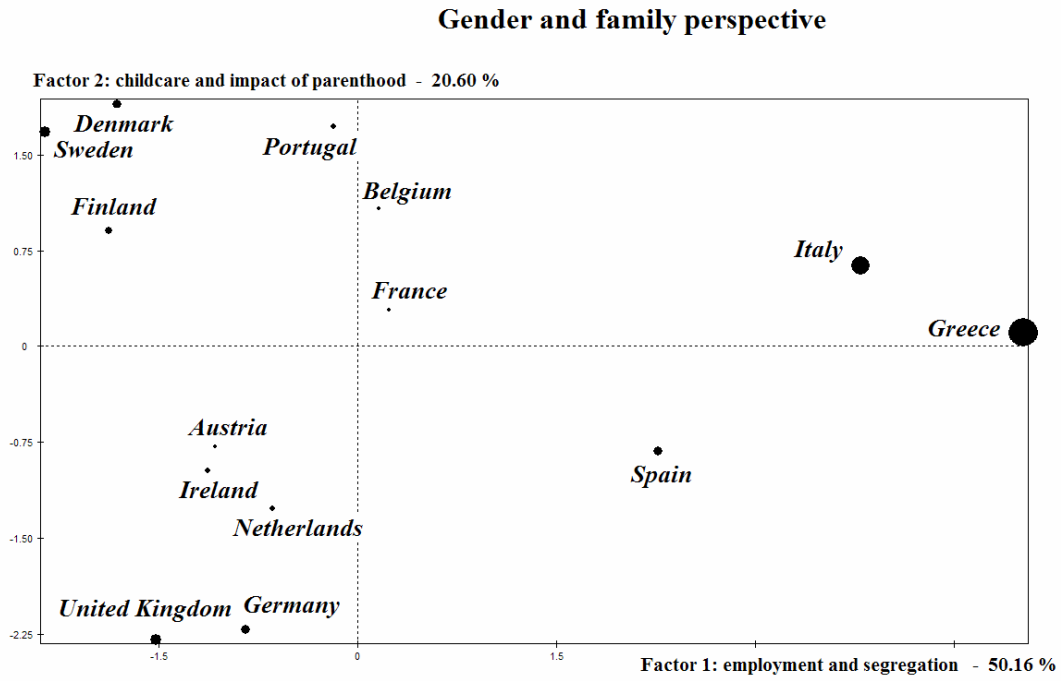



**Figure 8**




# CONCLUSION

A comparative analysis of employment quality in Europe reveals the heterogeneity of national situations with regard to European Employment Strategy indicators, but also to complementary variables that we have introduced to reflect four fundamental dimensions of employment quality, wages, skills and training, working conditions and gender equality. The global and disaggregated results tend to confirm the hypothesis that existing differences are

related to institutions, and correspond to usual typologies of industrial relations systems, welfare states, and capitalisms.

In a policy perspective, the theoretical and empirical analysis shows that Laeken indicators offer a good starting point for analysing employment quality, but encounter two major limits. First, they miss crucial dimensions, especially wage levels and inequalities; second, the comparability of some indicators may be problematic. These limitations call for an introduction of complementary indicators in the European benchmarking process. Despite the political decline of employment quality in the framework of the EES, which might be temporary, these results also call for complementary investigation: for instance, the dynamics of employment quality[7] and its relationships with labour market performances, economic growth, or policies, should be further explored by using time series data.

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[7] See Fremigacci & L'Horty (2006) for a first investigation concerning employment quality dynamics in the French case.

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# STATISTICAL APPENDIX

## a) Data

### *Laeken indicators*

** Key indicators*

- Transition of non-employed people into employment one year later. 2000/2001. Source: ECHP (Compendium)
- Participation in education and training. 2001. Source: LFS (Compendium).
- Difference between men's and women's average gross hourly earning as percentage of average men's hourly earning (for paid employees at work). 2001. Source: ECHP (Compendium).
- The evolution of incidence rate defined as the number of serious accidents at work per 100 000 persons in employment. 2001. Source: ESAW (Compendium)
- Part-time employment as a percentage of total employment. 2001 (Eurostat website)
- Fixed-term contract as a percentage of total employment. 2001 (Eurostat website).
- Transition from unemployment to inactivity. 2000/2001 Source: ECHP(Compendium)
- Transition from inactivity to employment. 2001/2001. Source: ECHP (Compendium)
- Transition from unemployment to employment. 2000/2001. Source: ECHP (Compendium).
- Ascending wage mobility (sum of the transitions from the first three deciles to upper deciles). 200/2001. Source: ECHP (Compendium).
- Growth in labour productivity (GDP per hour worked). 2001. Source: Eurostat (Compendium)
- Growth in labour productivity (GDP per person worked). Source: Eurostat (Compendium).

** Context indicators*

- Transition from fixed-term contract to long-term contract. 2000/2001. Source: ECHP (Compendium)
- mean job satisfaction. 2001. Source: ECHP (Compendium).
- Women participation in education and training. 2001. Source: LFS (Compendium).
- Men participation in education and training. 2001. Source: LFS (Compendium).
- Participation in education and training (25-34 years old). 2001. Source: LFS (Compendium).
- Participation in education and training (35-44 years old). 2001. Source: LFS (Compendium).
- Participation in education and training (45-54 years old). 2001. Source: LFS (Compendium).
- Participation in education and training (55-64 years old). 2001. Source: LFS (Compendium).
- Share of the workforce using computer and/or at the workplace for work purposes. 2000. Source: Eurobarometer survey on ICT and employment (Compendium)
- Employment gap between men and women. 2001. Source: LFS (Eurostat website)

- Gender unemployment gap. 2001. Source : LFS (Eurostat website)
- Occupational segregation. 2001. Source : LFS (Compendium)
- Sectorial segregation. 2001. Source : LFS (Compendium)
- Incidence rate defined as the number of serious accidents at work per 100 000 persons in employment. 2001. Source: ESAW (Eurostat website)
- Women involuntary part-time (Eurostat website).
- Men involuntary part-time (Eurostat website)
- Transition from unemployment to employment. 2000/2001 Source: ECHP(Compendium)
- Transition from non-employment to training. 2000/2001 Source: ECHP(Compendium)
- 15-64 years old employment rate. 2001. Source: LFS (Eurostat website)
- 15-24 years old employment rate. 2001. Source: LFS (Eurostat website)
- 25-54 years old employment rate. 2001. Source: LFS (Eurostat website)
- 55-64 years old employment rate. 2001. Source: LFS (Eurostat website)
- Long-term unemployment rate. 2001. Source: LFS (site Eurostat website)
- Women long-term unemployment rate. 2001. Source: LFS (Eurostat website)
- Men Long-term unemployment rate. 2001. Source: LFS (Eurostat website)
- Youth unemployment ratio: total unemployed young people (15-24 years) as a share of total population in the same brackets. 2001. Source: LFS (Compendium)
- Employment impact of parenthood for men: the difference in percentage points in employment rates without the presence of any children and with the presence of a child aged 0-6. 2001. Source: LFS (Compendium)
- Employment impact of parenthood for women: the difference in percentage points in employment rates without the presence of any children and with the presence of a child aged 0-6. 2001. Source: LFS (Compendium)
- Childcare: children cared for (by other formal arrangements than family) up to 30 hours a usual week as a proportion of all children of the same age group. 2002. Source: national sources (Compendium)
- Difference in employment rates between 55-64 years old and 15-64 years old. 2001. Source: LFS (Eurostat website).
- Productivity (GDP per hour worked). Source: Eurostat (Compendium)
- Productivity (GDP per person employed). Source: Eurostat (Compendium)
- Population who achieved at least upper secondary education
- Men who achieved at least upper secondary education. 2001. Source: LFS (Compendium)
- Women who achieved at least upper secondary education. 2001. Source: LFS (Compendium)

### *Complementary indicators*

- Exposure to vibrations (the 5 first modalities).2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Exposure to loud noise. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Exposure to radiation. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Exposure to low temperature. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)

- Exposure to high temperature. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Exposure to dangerous substance. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Job involves moving heavy loads. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Job involves painful/tiring positions. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Discussion on working conditions. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Discussion leads to improvements. 2000. Source: the Third European Survey on Working Conditions (Eurofound website)
- Median wage. 2001. Source: ECHP (our own calculations)
- Minimum wage. 2001. Source: Eurostat website
- Cost of CVT courses par participant. 1999. Source: CVTS (Continual Vocational Training Survey)
- Hours of CVT courses per participant. 1999. Source: LFS (special survey)
- Training Labour Market Policies Expenditure as % GDP. 2001. Source: Eurostat (website)
- Total public expenditure on education as % GDP. 2001. Source: Eurostat (website)
- Participation in informal education and training. 2003: Source: Education – Life Long Learning Base - LFS (ad hoc module)

## b) Method

The Principal Component Analysis (PCA) tries to describe a cloud of points, which does not spread out equally in every direction, because of the affinities between variables (the contrary would be the "Independence hypothesis"). The principle is to seek, for a cloud of points, the best representation in the minimum number of axis. In other words, PCA tries to determine a new space (of two dimensions, if possible) which passes through the centre of gravity of the cloud (i.e. its mean profile) and which maximizes the inertia. Inertia is the distance to the independence hypothesis, that is to say an indicator of the magnitude of the correlations. We have used standardized variables.

On the graphical results, the percentage near each axis is the proportion of the cloud's inertia that can be summarized by each axis. In brief, the greater is the proportion explained by the two first axes, the better the graphic. One point represents a country. The size of this point is proportionate to the relevance of the representation of the country in this plane.

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